

**Table S1.** Fatty acid composition of brain (%).

<b>Fatty acids</b>	<b>LFD</b>	<b>HFD</b>	<b>HFD+H3L6</b>	<b>HFD+L3H6</b>
C16:0	20.63±1.76	22.50±1.45	19.94±1.29	20.50±1.51
C16:1 n-7	0.43±0.02	0.38±0.03	0.38±0.05	0.34±0.04
C18:0	20.52±1.78	18.69±0.60	19.42±0.46	19.84±0.92
C18:1 n-9	19.64±0.72	19.41±0.37	18.75±0.32	18.60±0.81
C18:2 n-6	0.91±0.14	0.91±0.05	0.72±0.25	1.10±0.41
C18:3 n-3				
C18:3 n-6				
C20:3 n-6	0.75±0.27	0.55±0.20	0.85±0.33	0.55±0.17
C20:4n-6	859±1.94	9.48±2.18	8.09±2.01	9.05±1.58
C20:5n-3		0.11±0.02	0.12±0.02	0.10±0.02
C22:5n-3		0.14±0.01	0.17±0.02	0.15±0.02
C22:6n-3	10.30±0.92	10.77±1.11	10.89±0.43	10.18±0.67
SFA	41.14±1.85	41.19±1.70	39.35±0.90	40.34±0.71
MUFA	20.07±0.73	19.79±0.39	19.13±0.37	18.95±0.84
PUFA	20.62±2.40	21.91±2.36	21.84±0.59	21.46±0.82
n-6	10.25±1.54	10.94±2.03	9.66±0.29	11.04±0.63
n-3	10.30±0.92	10.98±1.09	11.18±0.41	10.43±0.64
n-6/n-3	0.99±0.06	1.01±0.20	0.79±0.03	1.06±0.06

\* Data are means ± standard error (n = 10). Different letters indicate significant differences ( $P<0.05$ ) between each group, and the same letters indicate that there is no significant difference ( $P>0.05$ ) between each group.

**Table S2.** Fatty acid composition of heart (%).

Fatty acids	LFD	HFD	HFD+H3L6	HFD+L3H6
C16:0	13.77±0.92	11.60±1.44	11.17±1.92	10.57±0.91
C16:1 n-7	0.17±0.01 <sup>b</sup>	0.07±0.01 <sup>a</sup>	0.16±0.04 <sup>b</sup>	0.13±0.01 <sup>b</sup>
C18:0	19.62±2.53	19.49±1.12	18.66±1.29	18.88±1.31
C18:1 n-9	6.23±1.42	6.15±0.97	6.26±1.08	6.28±0.98
C18:2 n-6	17.99±1.12	17.65±1.46	17.57±0.79	19.22±1.59
C18:3 n-3	0.43±0.08 <sup>b</sup>	0.03±0.01 <sup>a</sup>	1.44±0.10 <sup>c</sup>	0.04±0.01 <sup>a</sup>
C18:3 n-6			0.17±0.05	
C20:3 n-6	8.80±1.03	9.08±1.04	9.81±1.21	10.62±0.64
C20:4n-6	9.53±1.64 <sup>a</sup>	13.94±0.94 <sup>b</sup>	9.02±0.91 <sup>a</sup>	10.83±0.87 <sup>b</sup>
C20:5n-3	1.37±0.33 <sup>ab</sup>	1.80±0.65 <sup>ab</sup>	1.07±0.17 <sup>a</sup>	2.24±0.23 <sup>b</sup>
C22:5n-3				
C22:6n-3	11.94±0.96 <sup>bc</sup>	10.07±0.91 <sup>ab</sup>	12.55±0.88 <sup>c</sup>	8.93±1.09 <sup>a</sup>
SFA	33.39±3.27	31.09±0.75	29.83±0.64	29.45±1.49
MUFA	6.40±1.41	6.22±0.97	6.43±1.24	6.42±0.98
PUFA	50.27±2.80	52.58±1.69	53.00±0.85	54.00±0.34
n-6	36.53±2.48 <sup>a</sup>	40.67±1.86 <sup>bc</sup>	37.95±0.91 <sup>ab</sup>	42.79±1.09 <sup>c</sup>
n-3	13.74±1.11 <sup>bc</sup>	11.90±0.59 <sup>ab</sup>	15.06±1.05 <sup>c</sup>	11.21±0.87 <sup>a</sup>
n-6/n-3	2.68±0.29 <sup>a</sup>	3.43±0.28 <sup>b</sup>	2.53±0.19 <sup>a</sup>	3.85±0.41 <sup>b</sup>

\* Data are means ± standard error (n = 10). Different letters indicate significant differences ( $P<0.05$ ) between each group, and the same letters indicate that there is no significant difference ( $P>0.05$ ) between each group.

**Table S3.** Fatty acid composition of gastrocnemius (%).

<b>Fatty acids</b>	<b>LFD</b>	<b>HFD</b>	<b>HFD+H3L6</b>	<b>HFD+L3H6</b>
C16:0	25.84±3.40	21.24±3.73	20.69±2.82	19.14±2.74
C16:1 n-7	0.77±0.07 <sup>c</sup>	0.52±0.02 <sup>b</sup>	0.32±0.04 <sup>a</sup>	0.42±0.04 <sup>ab</sup>
C18:0	7.61±1.44 <sup>a</sup>	10.91±0.29 <sup>b</sup>	8.26±1.11 <sup>a</sup>	8.59±0.58 <sup>a</sup>
C18:1 n-9	18.74±1.42 <sup>c</sup>	16.97±2.21 <sup>bc</sup>	13.17±1.89 <sup>ab</sup>	11.36±0.91 <sup>a</sup>
C18:2 n-6	17.40±0.68 <sup>a</sup>	19.52±1.63 <sup>a</sup>	20.39±4.16 <sup>a</sup>	27.19±1.67 <sup>b</sup>
C18:3 n-3	0.48±0.10 <sup>a</sup>	0.42±0.09 <sup>a</sup>	6.24±1.72 <sup>b</sup>	0.63±0.07 <sup>a</sup>
C18:3 n-6				
C20:3 n-6	7.85±1.51 <sup>b</sup>	3.60±0.97 <sup>a</sup>	4.63±1.34 <sup>a</sup>	5.35±1.10 <sup>ab</sup>
C20:4n-6	3.91±0.79 <sup>a</sup>	7.07±0.76 <sup>b</sup>	2.17±0.74 <sup>a</sup>	7.82±0.72 <sup>b</sup>
C20:5n-3	0.40 ±0.27	0.39±0.26	0.15±0.10	0.70±0.48
C22:5n-3	0.37±0.03 <sup>a</sup>	1.08±0.16 <sup>b</sup>	0.37±0.13 <sup>a</sup>	0.91±0.06 <sup>b</sup>
C22:6n-3	11.70±1.39 <sup>c</sup>	7.43±0.59 <sup>bc</sup>	9.91±1.53 <sup>bc</sup>	6.47±1.06 <sup>a</sup>
SFA	33.45±1.96	32.15±3.44	28.95±1.97	27.73±3.32
MUFA	19.51±1.48 <sup>a</sup>	17.49±2.19 <sup>a</sup>	13.49±1.89 <sup>b</sup>	11.78±0.87 <sup>b</sup>
PUFA	42.10±3.14 <sup>ab</sup>	39.51±1.27 <sup>a</sup>	43.86±4.66 <sup>ab</sup>	49.06±2.70 <sup>b</sup>
n-6	29.15±1.61 <sup>a</sup>	30.19±1.84 <sup>a</sup>	27.19±5.85 <sup>a</sup>	40.36±2.06 <sup>b</sup>
n-3	12.95±1.53 <sup>b</sup>	9.32±0.57 <sup>a</sup>	16.67±0.54 <sup>c</sup>	8.70±1.41 <sup>a</sup>
n-6/n-3	2.27±0.14 <sup>a</sup>	3.26±0.40 <sup>b</sup>	1.62±0.32 <sup>a</sup>	4.73±0.54 <sup>c</sup>

\* Data are means ± standard error (n = 10). Different letters indicate significant differences ( $P<0.05$ ) between each group, and the same letters indicate that there is no significant difference ( $P>0.05$ ) between each group.

**Table S4.** Fatty acid composition of spleen (%).

Fatty acids	LFD	HFD	HFD+H3L6	HFD+L3H6
C16:0	27.45±1.00 <sup>c</sup>	23.66±0.92 <sup>b</sup>	20.22±2.60 <sup>a</sup>	19.06±1.61 <sup>a</sup>
C16:1 n-7	0.56±0.07 <sup>a</sup>	0.55±0.09 <sup>a</sup>	2.71±0.66 <sup>b</sup>	0.55±0.05 <sup>a</sup>
C18:0	13.25±0.6	13.71±0.74	12.77±1.90	13.36±0.93
C18:1 n-9	18.67±0.91	18.28±0.90	17.58±0.74	17.54±1.00
C18:2 n-6	10.49±0.83 <sup>b</sup>	8.33±0.49 <sup>a</sup>	10.22±0.84 <sup>b</sup>	13.26±0.710 <sup>c</sup>
C18:3 n-3	0.57±0.32 <sup>a</sup>	0.63±0.08 <sup>a</sup>	3.95±0.54 <sup>b</sup>	0.61±0.10 <sup>a</sup>
C18:3 n-6				
C20:3 n-6	6.36±0.61 <sup>a</sup>	9.42±0.87 <sup>b</sup>	6.22±0.56 <sup>a</sup>	9.29±0.49 <sup>b</sup>
C20:4n-6	8.95±1.15 <sup>a</sup>	11.58±0.94 <sup>b</sup>	8.44±0.60 <sup>a</sup>	11.42±1.18 <sup>b</sup>
C20:5n-3	1.24±0.80	0.96±0.24	0.58±0.07	1.25±0.24
C22:5n-3	1.02±0.16 <sup>a</sup>	0.95±0.11 <sup>a</sup>	1.97±0.50 <sup>b</sup>	0.97±0.11 <sup>a</sup>
C22:6n-3	1.93±0.43 <sup>a</sup>	1.21±0.14 <sup>a</sup>	3.89±0.14 <sup>b</sup>	1.84±0.61 <sup>a</sup>
SFA	40.69±0.96 <sup>c</sup>	37.37±0.39 <sup>b</sup>	32.98±4.44 <sup>a</sup>	32.42±0.75 <sup>a</sup>
MUFA	19.23±0.97 <sup>ab</sup>	18.84±0.81 <sup>ab</sup>	20.29±0.60 <sup>b</sup>	18.08±1.04 <sup>a</sup>
PUFA	30.55±0.86 <sup>a</sup>	33.10±0.83 <sup>b</sup>	35.26±1.54 <sup>b</sup>	38.62±0.93 <sup>c</sup>
n-6	25.80±0.83 <sup>a</sup>	33.20±0.72 <sup>b</sup>	24.87±1.03 <sup>a</sup>	33.96±0.90 <sup>c</sup>
n-3	4.75±1.44 <sup>a</sup>	3.76±0.38 <sup>a</sup>	10.39±0.81 <sup>b</sup>	4.66±0.48 <sup>a</sup>
n-6/n-3	6.07±2.17 <sup>b</sup>	7.86±0.68 <sup>b</sup>	2.41±0.19 <sup>a</sup>	7.38±0.88 <sup>b</sup>

\* Data are means ± standard error (n = 10). Different letters indicate significant differences ( $P<0.05$ ) between each group, and the same letters indicate that there is no significant difference ( $P>0.05$ ) between each group.

**Table S5.** Fatty acid composition of erythrocyte (%).

Fatty acids	LFD	HFD	HFD+H3L6	HFD+L3H6
C16:0	30.76±2.40 <sup>c</sup>	28.85±1.38 <sup>ab</sup>	25.81±0.83 <sup>a</sup>	27.25±1.15 <sup>ab</sup>
C16:1 n-7	0.56±0.06	0.42±0.12	0.47±0.07	0.44±0.06
C18:0	15.12±1.58 <sup>b</sup>	9.94±1.19 <sup>a</sup>	10.72±1.38 <sup>a</sup>	12.21±1.31 <sup>ab</sup>
C18:1 n-9	7.97±1.03 <sup>a</sup>	14.49±1.52 <sup>b</sup>	13.89±1.85 <sup>b</sup>	12.83±1.55 <sup>b</sup>
C18:2 n-6	9.65±1.33	9.20±0.30	8.57±0.28	9.89±0.39
C18:3 n-3	0.03± 0.01 <sup>a</sup>	0.17±0.03 <sup>a</sup>	0.45±0.12 <sup>b</sup>	0.16±0.03 <sup>a</sup>
C18:3 n-6	2.08±0.41 <sup>b</sup>	0.77±0.31 <sup>a</sup>	1.73±0.33 <sup>ab</sup>	2.56±0.83 <sup>b</sup>
C20:3 n-6	3.12±0.12 <sup>a</sup>	3.49±0.23 <sup>ab</sup>	3.23±0.14 <sup>ab</sup>	3.63±0.28 <sup>b</sup>
C20:4 n-6	5.82±1.22 <sup>a</sup>	9.13±1.12 <sup>b</sup>	6.72±2.09 <sup>a</sup>	11.05±1.39 <sup>b</sup>
C20:5 n-3	0.13±0.01 <sup>a</sup>	0.13±0.01 <sup>a</sup>	0.31±0.10 <sup>ab</sup>	0.35±0.07 <sup>b</sup>
C22:5 n-3	0.47±0.12	0.54±0.07	0.64±0.12	0.63±0.11
C22:6 n-3	1.85±0.41 <sup>a</sup>	1.73±0.57 <sup>a</sup>	5.05±0.85 <sup>b</sup>	2.13±0.57 <sup>a</sup>
SFA	47.67±1.05 <sup>b</sup>	40.37±0.26 <sup>a</sup>	39.16±1.72 <sup>a</sup>	41.07±2.22 <sup>a</sup>
MUFA	9.40±1.03 <sup>a</sup>	15.81±1.47 <sup>b</sup>	15.22±1.73 <sup>ab</sup>	14.20±1.42 <sup>b</sup>
PUFA	23.01±1.74 <sup>a</sup>	25.57±1.64 <sup>b</sup>	26.98±1.34 <sup>ab</sup>	31.46±2.32 <sup>b</sup>
n-6	20.38±1.29 <sup>ab</sup>	22.66±1.44 <sup>b</sup>	20.36±0.60 <sup>a</sup>	28.04±1.71 <sup>c</sup>
n-3	2.63±0.53 <sup>a</sup>	2.88±0.23 <sup>a</sup>	6.63±2.05 <sup>b</sup>	3.42±0.61 <sup>a</sup>
n-6/n-3	8.07±1.18 <sup>b</sup>	7.91±0.36 <sup>b</sup>	3.21±2.35 <sup>a</sup>	8.47±1.19 <sup>b</sup>

\* Data are means ± standard error (n = 10). Different letters indicate significant differences ( $P<0.05$ ) between each group, and the same letters indicate that there is no significant difference ( $P>0.05$ ) between each group.